IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re the Application of

Inventors	**:**	**Eric Jonsen**	
Application No.	**:**	**10/573,065**	**From PCT/IB04/51717**
Filed	**:**	**March 23, 2006**	
For	**:**	**IDENTIFICATION SYSTEM FOR DEFIBRILLATOR ELECTRODE PACKAGE**	

APPEAL BRIEF

On Appeal from Group Art Unit 4148

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I. REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., Eindhoven, The Netherlands by virtue of an assignment recorded June 26, 2006 at reel 017845, frame 0139.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-20 are pending in the application and stand finally rejected. The claims being appealed are Claims 1-20.

IV. STATUS OF AMENDMENTS

No amendments were filed in response to the final rejection mailed May 13, 2008.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The subject matter of the claimed invention as per independent Claims 1, 5, 6 and 16 and their dependent claims is an electrode package with a shaped conductive label disposed on an electrode cartridge for a defibrillator which is used to identify the type of electrode in the cartridge. Defibrillators can at times use different electrodes, such as adult and pediatric electrodes, the latter often being smaller and operating to deliver lower defibrillation energies. For a manual defibrillator the operator will set the dials for the type of electrode and energy delivery. An automatic defibrillator

such as an automatic external defibrillator (AED) can use manual controls also, such as the "Pedi-key" described in PCT publication WO2006/067693A1. This manual control is used to switch an AED into a pediatric operating mode for use with a universal electrode which can be used with both adult and pediatric patients as described in US Patent 7,062,321 (Morgan et al.) In other implementations when different electrodes are used for different patients or situations, it is desirable for the AED to automatically sense the electrode type from the attached electrode. The conventional way to identify the type of an electrode set (*e.g.,* adult electrodes, pediatric electrodes, training electrodes) is by means of the connector which connects the electrode set to the defibrillator. One way to do this is with connector contacts which present an identifying set of conductors in the connector as described in US Patent 6,560,485 (Herleikson). Another way is with an identifying electrical impedance element such as a resistor or magnet in the connector plug as described in US Patent 7,016,726 (Picardo et al.) These approaches, which locate the identifying element in the connector plug, are preferable over approaches which locate the identifying element at the electrodes or in the electrode package such as that shown in US Patent 6,101,413 (Olson et al.), as these latter approaches generally require an additional set of wires to the defibrillator as sensing lines to the identifying element, which increases the bulk and cost of the electrode set.

The present invention takes an entirely different approach to electrode identification. Many AEDs have a compartment in which the electrode package, such as the electrode cartridge 10 shown in Fig. 1 of the present application, is stored prior to use. In the illustration of Fig. 4 of the application the cartridge 10 is installed in a cartridge receptacle 40 of the defibrillator. This receptacle contains a plurality of

conductive pins 42a-42d. The electrode cartridge has a shaped conductive label 13 adhesively attached to the outside of the cartridge. This is all described in the present specification from page 4, line 11 to page 5, line 5. When the cartridge 10 is installed in the receptacle 40 these pins 42a-42d sense the shape of the conductors of the label, which can be a pattern of simple gold-plated metal foil. See page 5, lines 6-10. By sensing the shape of the foil conductors of the label, the type of electrodes in the cartridge is immediately and positively identified.

The shaped conductive label provides many advantages. Since it does not rely on any optical sensing it can be used in dark areas such as in the cartridge compartment of the defibrillator. Since the label needs no electrical connections to the cartridge or electrodes or electrode plug, it can be placed anywhere on the cartridge that aligns with the pins when the cartridge is installed. There are no vagaries or chance for error of reading a resistor value; the conductive shapes either provide a complete short (zero Ohms) or open circuit (infinite impedance) between the pins for a positive identification. There are no complex data transfers between an element in the cartridge and the defibrillator. The same cartridge can be used for all types of electrodes by simply sticking the appropriate label on the cartridge. The labels are very inexpensive and lend themselves to automated assembly of the cartridges and electrodes.

Mapping the independent claims under appeal to the text and drawings of the application, it is seen that the claim elements are supported by the text and drawings as shown in parentheses:

1. (previously presented) A method for identifying an electrode type in an automatic external defibrillator comprising the steps of:

providing on an automatic external defibrillator electrode package (10) which includes an electrical connector (11,12) for coupling an electrode to the defibrillator a

shaped conductive label (13) having a conductive path that uniquely identifies a type of electrode contained therein (step 61; pg. 7, lines 17-21);

coupling the electrode electrical connector to an electrode connector of the defibrillator (pg. 7, lines 6-11); and

coupling one or more conductors to the shaped conductive label when the automatic external defibrillator electrode package is coupled to the defibrillator (pg. 7, lines 22-24).

5. (previously presented) An electrode package for an automatic external defibrillator comprising:

a cartridge (10,20,30) for containing one or more electrodes of a particular type (pg. 6, lines 18-19); and

a shaped conductive label (13,23) disposed on the cartridge, said shaped conductive label uniquely identifying the particular type of electrode contained therein via the shape of said shaped label (pg. 6, lines 19-21 & pg. 6, lines 15-17).

6. (previously presented) An automatic external defibrillator comprising:

one or more electrode cartridges (10,20,30), each containing one or more electrodes of a particular type (pg. 6, lines 18-19); and

one or more shaped conductive labels (13,23), each disposed on one of the one or more electrode cartridges, each of said one or more shaped conductive labels uniquely identifying a particular type of electrode contained therein based on the shape of said shaped label (pg. 6, lines 19-21 & pg. 6, lines 15-17).

16. (previously presented) A method for identifying an electrode type in an automatic external defibrillator comprising the steps of:

providing a first conductive label (13) on a first type of an automatic external defibrillator electrode package (10), said first conductive label having a first shape that uniquely identifies a type of electrode contained therein (pg. 5, lines 19-24); and

providing a second conductive label (23) on a second type of an automatic external defibrillator electrode package (20), said second conductive label having a second shape that uniquely identifies a type of electrode contained therein (pg. 6, lines 1-7).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-3, 5-7, 9, 12-17 and 19 were correctly rejected under 35 U.S.C. §103(a) as unpatentable over US Patent 6,101,413 (Olson et al.);

Whether Claims 4, 8, 10 and 18 were correctly rejected under 35 U.S.C. §103(a) as unpatentable over Olson et al. in view of US Patent 6,018,683 (Verness et al.); and

Whether Claim 11 was correctly rejected under 35 U.S.C. §103(a) as unpatentable over Olson et al. in view of US Patent 5,989,053 (Wheeler).

VII. ARGUMENT

A. Rejection of Claims 1-3, 5-7, 9, 12-17 and 19 as unpatentable over US Patent 6,101,413 (Olson et al.)

The complete grounds of rejection of independent Claims 1, 5, 6 and 16 are stated on pages 2-3 of the Office action mailed May 13, 2008 as follows:

> Regarding claim(s) 1, 5, 6, and 16, Olson et al. discloses a method for identifying an electrode type in an automatic external defibrillator but fails to provide a shaped conductive label on an automatic external defibrillator electrode package which includes an electrical connector for coupling an electrode to the defibrillator a shaped conductive label having a conductive path that uniquely identifies a type of electrode contained therein; and coupling one or more pins to the shaped conductive label when the automatic external defibrillator electrode package is coupled to the defibrillator.
> 4. To have considered the package identification element 400 disclosed by Olson et al. to be a label with a particular shape would have been obvious, if not inherent, to one of ordinary skill since Olson et al. states that the package identification element 400 may be separately attached to the package externally (Figure 9; Col. 8, Lines 32-34), just like a label.

Olson et al. has Figs. 9, 10, and 11 which show different identification elements 400, 406 and 418 in an electrode package. The generalized identification element 400 in Fig. 9 provides a particular measured response such as a signal, current change or voltage change when powered by an energizing means 404 in the defibrillator, which is measured by a measuring means 402 in the defibrillator. In Fig. 10 the element is specified as a resistor 406 of a predetermined resistance, which could also be a capacitor or inductor (col. 9, lines 14-19). In Fig. 11 the element is an active component 418 such as a read-only memory.

It is respectfully submitted that these embodiments are all standard electrical circuit components, which all need to be wired to a measuring means or processor in the defibrillator. None of these circuit components suggest a shaped conductive label on the electrode package which has no wiring connections whatsoever, is less expensive than an electrical component and can be stuck anywhere on the electrode package. The jump to a shaped conductive label which the Examiner envisions cannot be made from the use of wired electrical circuit components which Olson et al. provides. Even if the circuit component could be separately attached externally to an electrode package (see next paragraph), does that suddenly make it a label? It is respectfully submitted that an electrode package with a shaped conductive label of the present invention is not obvious from the measurement of electrical values or the receipt of data from wired electrical circuit components.

The Examiner also wants the electrical components of Olson et al. to be on the outside of the electrode package, even though they are shown inside the package 60 in each of the drawings of Olson et al. For this the Examiner draws on the sentence of col. 8, lines 32-34 of Olson et al. where it is stated that the identification element 400 can be "separately provided." Olson et al. mention this possibility so that the wires which their circuit component needs do not have to be incorporated into the electrode package. But when the Examiner cites this passage he adds a twist: that the element can be "separately attached to the package externally." Olson et al. do not suggest attaching their element to the package. They say only that it can be "separately provided" somewhere where it is not incorporated into the package. Exactly where this is is never stated. In fact, Olson et al. do not require their identification element to be disposed <u>on</u> the electrode package at all, either inside or outside; they need be

only "incorporated" or "separately provided.". It is the Examiner who has provided this "new matter" to Olson et al.'s statement to make his rejection.

It is seen that Claim 1 states the step of "providing on an AED electrode package ... a shaped conductive label having a conductive path that uniquely identifies a type of electrode" which is not shown or suggested by the electrical circuit components of Olson et al. Claim 5 calls for "a cartridge" and "a shaped conductive label disposed on the cartridge, said shaped conductive label uniquely identifying the particular type of electrode contained therein via the shape of said shaped label" which is not suggested by Olson et al. Claim 6 calls for "one or more electrode cartridges" with "one or more shaped conductive labels, each disposed on one of the one or more electrode cartridges, each of said one or more shaped conductive labels uniquely identifying a particular type of electrode contained therein based on the shape of said shaped label," which is nowhere suggested by Olson et al. And Claim 16 calls for "providing a first conductive label on a first type of an AED electrode package, said first conductive label having a first shape that uniquely identifies a type of electrode contained there." It is respectfully submitted that the wired electrical circuit components of Olson et al. cannot render these claims unpatentable.

With the independent Claims 1, 5, 6, and 16 being patentable over Olson et al., it follows that their dependent Claims 2-3, 7, 9, 12-15, 17 and 19 are patentable over Olson et al. by reason of their dependency.

B. Rejection of Claims 4, 8, 10 and 18 as unpatentable over Olson et al. in view of Verness et al. and of Claim 11 as unpatentable over Olson et al. in view of Wheeler

The Examiner cites two other patents to reject various ones of the claims which depend from Claims 1, 6, and 16. US Patent 6,018,683 (Verness et al.) to an implantable pacing lead with a stranded conductor providing a redundant conductor to a coiled conductor was cited for its teaching of redundant components. It does not show or suggest a shaped conductive label for any purpose, and hence cannot overcome the deficiency of Olson et al. to render Claims 4, 8, 10 and 18 unpatentable for the reasons given above for Claims 1, 6, and 16, from which they depend. US Patent 5,989,053 (Wheeler) to an electrical connector was cited for the proposition that it is known to gold-plate electrical connector contacts. Wheeler likewise has nothing to do with shaped conductive labels. Consequently Wheeler does not cure the deficiency of Olson et al. as applied to Claim 6, from which Claim 11 depends. It is therefore respectfully submitted that Claims 4, 8, 10 and 18 are patentable over the combination of Olson et al. and Verness et al., and that Claim 11 is patentable over Olson et al. in combination with Wheeler.

VIII. CONCLUSION

Based on the law and the facts, it is respectfully submitted that Claims 1-3, 5-7, 9, 12-17 and 19 are patentable over Olson et al., that Claims 4, 8-10 and 18 are patentable over the combination of Olson et al. and Verness et al., and that Claim 11 is patentable over Olson et al. in combination with Wheeler. Accordingly, it is respectfully requested that this Honorable Board reverse the grounds of rejection of these claims stated in the May 13, 2008 Office action being appealed.

Respectfully submitted,

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APPENDIX A: CLAIMS APPENDIX

The following Claims 1-20 are the claims involved in the appeal.

1. (previously presented) A method for identifying an electrode type in an automatic external defibrillator comprising the steps of:

providing on an automatic external defibrillator electrode package which includes an electrical connector for coupling an electrode to the defibrillator a shaped conductive label having a conductive path that uniquely identifies a type of electrode contained therein;

coupling the electrode electrical connector to an electrode connector of the defibrillator; and

coupling one or more conductors to the shaped conductive label when the automatic external defibrillator electrode package is coupled to the defibrillator.

2. (previously presented) The method according to claim 1, further comprising the step of:

sensing a shape of the shaped conductive label with the one or more conductors to ascertain the type of electrode contained therein.

3. (previously presented) The method according to claim 1, further comprising the step of:

selecting an operating mode for the automatic external defibrillator based on the shape of the shaped conductive label.

4. (previously presented) The method according to claim 2, wherein said sensing step further comprises redundantly sensing two or more portions of said shape of the shaped conductive label with two or more conductors to ascertain the type of electrode contained therein.

5. (previously presented) An electrode package for an automatic external defibrillator comprising:

a cartridge for containing one or more electrodes of a particular type; and

a shaped conductive label disposed on the cartridge, said shaped conductive label uniquely identifying the particular type of electrode contained therein via the shape of said shaped label.

6. (previously presented) An automatic external defibrillator comprising:

one or more electrode cartridges, each containing one or more electrodes of a particular type; and

one or more shaped conductive labels, each disposed on one of the one or more electrode cartridges, each of said one or more shaped conductive labels uniquely identifying a particular type of electrode contained therein based on the shape of said shaped label.

7. (previously presented) The automatic external defibrillator according to claim 6, further comprising:

an electrode cartridge receptacle to accept each of the one or more electrode cartridges, said electrode cartridge receptacle including one or more sensing pins to couple in a unique pattern to the one or more shaped conductive labels when each of the one or more electrode cartridges is inserted into the electrode cartridge receptacle.

8. (previously presented) The automatic external defibrillator according to claim 7, wherein said sensing pins are disposed to couple in a unique pattern to two or more portions of each of said shaped conductive labels to redundantly identify said particular type of electrode.

9. (previously presented) The automatic external defibrillator according to claim 7, further comprising:

a processor establishing a mode of operation of the automatic external defibrillator based on the particular one of the one or more shaped conductive labels sensed by the one or more sensing pins.

10. (previously presented) The automatic external defibrillator according to claim 7, wherein each of the one or more sensing pins comprises a spring-loaded pin to maintain said each sensing pin in electrical contact with the one or mode shaped conductive labels when each of the one or more electrode cartridges is inserted into the electrode cartridge receptacle.

11. (previously presented) The automatic external defibrillator according to claim 7, wherein each of the one or more shaped conductive labels comprises a gold-plated metal.

12. (previously presented) The automatic external defibrillator according to claim 9, wherein each of the one or more shaped conductive labels comprises a unique shape.

13. (previously presented) The automatic external defibrillator according to claim 12, wherein the one or more sensing pins sense the unique shape of the one or more shaped conductive labels when each of the one or more electrode cartridges is inserted into the electrode cartridge receptacle.

14. (previously presented) The automatic external defibrillator according to claim 13, wherein the processor establishes a mode of operation of the automatic external defibrillator based on the sensed shape of the conductive label.

15. (previously presented) The automatic external defibrillator according to claim 7, wherein each of the automatic external defibrillator electrode cartridges includes two contacts for electrically connecting patient electrodes to the automatic external defibrillator and the automatic external defibrillator electrode cartridge receptacle includes two contacts for electrically connecting the automatic external defibrillator to the two contacts on each of the automatic external defibrillator

electrode cartridges, and said two contacts on the automatic external defibrillator electrode cartridge receptacle are different than said one or more sensing pins.

16. (previously presented) A method for identifying an electrode type in an automatic external defibrillator comprising the steps of:

providing a first conductive label on a first type of an automatic external defibrillator electrode package, said first conductive label having a first shape that uniquely identifies a type of electrode contained therein; and

providing a second conductive label on a second type of an automatic external defibrillator electrode package, said second conductive label having a second shape that uniquely identifies a type of electrode contained therein.

17. (previously presented) The method according to claim 16, further comprising the step of:

coupling one or more pins to the first or second conductive label when the automatic external defibrillator electrode package on which the first or second conductive label, respectively, is disposed is coupled to the defibrillator.

18. (previously presented) The method according to claim 17, wherein the one or more pins comprise one or more spring-loaded pins.

19. (previously presented) The method according to claim 17, further comprising the step of:

sensing a shape of the shaped conductive label with the one or more pins to ascertain a type of electrode contained therein.

20. (previously presented) The method according to claim 16, further comprising the step of:

selecting an operating mode for the automatic external defibrillator based on the shape of the first and second shaped conductive labels.

APPENDIX B: EVIDENCE APPENDIX

None. No extrinsic evidence has been submitted in this case.

APPENDIX C: RELATED PROCEEDINGS

None. There are no related proceedings.